```
Run
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 s
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  OM nucleic -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Minimum DB
Maximum DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       seq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                      N_Geneseq_0601:*
1: /SIDSB/gcgdata
2: /SIDSB/gcgdata
3: /SIDSB/gcgdata
4: /SIDSB/gcgdata
6: /SIDSB/gcgdata
7: /SIDSB/gcgdata
7: /SIDSB/gcgdata
7: /SIDSB/gcgdata
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       length: 0
length: 2000000000
          10:
11:
12:
13:
14:
15:
16:
17:
18:
19:
20:
21:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IDENTITY_NUC Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-08-887-505-47
12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 August
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             730101 seqs, 313950809 residues
// SIDSB/gcgdata/geneseq/geneseqn/NA1989. DAT: *
// SIDSB/gcgdata/geneseq/geneseqn/NA1999. DAT: *
// SIDSB/gcgdata/geneseq/geneseqn/NA1991. DAT: *
// SIDSB/gcgdata/geneseq/geneseqn/NA1992. DAT: *
// SIDSB/gcgdata/geneseq/geneseqn/NA1993. DAT: *
// SIDSB/gcgdata/geneseq/geneseqn/NA1993. DAT: *
// SIDSB/gcgdata/geneseq/geneseqn/NA1994. DAT: *
// SIDSB/gcgdata/geneseq/geneseqn/NA1995. DAT: *
// SIDSB/gcgdata/geneseq/geneseqn/NA1995. DAT: *
// SIDSB/gcgdata/geneseq/geneseqn/NA1997. DAT: *
// SIDSB/gcgdata/geneseq/geneseqn/NA1999. DAT: *
// SIDSB/gcgdata/geneseq/geneseqn/NA2000. DAT: *
// SIDSB/gcgdata/geneseq/geneseqn/NA2000. DAT: *
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GenCore version 4.5
Copyright (c) 1993 - 2000 Comp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGGGUCCUGGAG 12
                                                                                                                                                                                                                                                                                                                                                                                                                             /SIDS8/gcgdata/geneseq/geneseqn/NA1980.DAT:*
/SIDS8/gcgdata/geneseq/geneseqn/NA1981.DAT:*
/SIDS8/gcgdata/geneseq/geneseqn/NA1982.DAT:*
/SIDS8/gcgdata/geneseq/geneseqn/NA1983.DAT:*
/SIDS8/gcgdata/geneseq/geneseqn/NA1984.DAT:*
                                                                                                                                                                                                                                                                                                                                                   /SIDS8/gcgdata/geneseq/geneseqn/NA1985.DAT:*
/SIDS8/gcgdata/geneseq/geneseqn/NA1986.DAT:*
/SIDS8/gcgdata/geneseq/geneseqn/NA1987.DAT:*
                                                                                                                                                                                                                                                                                                                                 /SIDS8/gcgdata/geneseq/geneseqn/NA1988.DAT:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8, 2001, 14:59:56;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Search time 161.69 Seconds (without alignments) 46.600 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Compugen Ltd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1460202
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

	11	10	9	8	7	6	5	c 4	c 3	c 2		Result	
	12	12	12	12	12	12	12	12	12	12	12	Score	
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	Query Match	•
	17	17	16	16	16	16	15	14	12	12	12	Query Match Length DB	
	15	15	21	18	15	15	15	15	20	20	18	DВ	
	AAQ65126	AAQ65142	AAA13439	AAT90622	AAQ65125	AAQ65141	AAQ65140	AAQ70177	AAX24037	AAZ23540	AAT80257	ID	
•	Antisense oligonuc	Antisense oligonuc	Hepatitis C virus	Hepatitis C virus	Antisense oligonuc	Antisense oligonuc	Antisense oligonuc	Hepatitis C virus	Ruthenium-labelled	HCV wild type geno	Oligo HCV82 used i	Description	

## ALIGNMENTS

```
RESULT
AAT80257
 Complementary; 5' untranslated region; UTR; hepatitis C virus; HCV; inhibition; replication; expression; detection; chronic hepatitis; acute hepatitis; hepatocarcinoma; ss.
                                                                                                                            modified_base
                                                                                                                                                       Key
modified_base
                                                                                                                                                                                                                                                  Oligo HCV82 used in luciferase assay.
                                                                                                                                                                                                                                                                      15-0CT-1997
                                                                                                                                                                                                                                                                                         AAT80257;
                                                                                                                                                                                                                                                                                                            AAT80257 standard; DNA; 12 BP.
(HOFF ) HOFFMANN LA ROCHE & CO AG (HYBR-) HYBRIDON INC.
                            06-JUN-1995;
                                               04-JUN-1996;
                                                                   12-DEC-1996.
                                                                                      W09639500-A2
                                                                                                                                                                                        Synthetic.
                                                                                                                                                                                                                                                                                                                               _
                                                                                                                                                                                                                                                                    (first entry)
                            95US-0471968
                                               96WO-EP02427
                                                                                                                              /*tag= a
/note= "Optionally 2'OMe modified"
7..12
                                                                                                                                                           Location/Qualifiers
1..6
                                                                                                         "Optionally comprises phosphorothicate linkages"
```

```
В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 2
AAZ23540/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local S
Matches 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The sequences given in AAT80211-382 represent synthetic oligonucleotides which are complementary to a portion of the 5' untranslated region (UTR) of hepatitis C virus (HCV). These sequences may be used in a pharmaceutical composition for the control or prevention of HCV infection. They may be used to inhibit replication or expression of HCV or for detecting the presence of HCV in a sample. They may be used to inhibit HCV replication in a cell and are therefor useful in the treatment of HCV infections such as chronic and acute hepatitis and hepatocarcinoma. This oligo was used in a luciferase assay to determine whether it binds sucessfully to its target.
                                                                                                                                                                                                                                                                                                 Assay; amp
cellular;
This invention describes a novel assay for a nucleic acid comprises: (a) generating amplification products from a fragment of the nucleic acid, (b) contacting the amplification products with a probe; and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         and hepato-carcinoma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     oligo:nucleotide(s) coused in the treatment
                                                                                                                                                                                                                      07-OCT-1999
                                                                                                                                                                                                                                                                                                                                                                                   AAZ23540;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 1997-043122/04
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Frank BL,
                                                                               Nucleic acid amplification assay
                                                                                                                                                                          02-APR-1998;
                                                                                                                                                                                                                                             DE19814828-A1
                                                                                                                                                                                                                                                                 Synthetic.
Hepatitis C virus
                                                                                                                                                                                                                                                                                                                                   HCV wild type genome probe.
                                                                                                                                                                                                                                                                                                                                                             21-DEC-1999
                                                                                                                                                                                                                                                                                                                                                                                                        AAZ23540 standard; DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Roberts NA,
                                             Example 1;
                                                                                                                                                  (HOFF )
                                                                                                                                                                                                                                                                                                                                                                                                                               N
                                                                                                      1999-552286/47
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GGGGUCCUGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                              gggguccuggag
                                                                                                                                                                                                                                                                                                             amplification; hybridisation; probe; detection; viral; bacterial;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
12; Conser
                                                                                                                            ú
                                                                                                                                                  ROCHE DIAGNOSTICS GMBH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    12 BP; 1 A; 2 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Page 31; 100pp; English
                                                                                                                                                                                                                                                                                                    yeast;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Goodchild
                                            Page 21;
                                                                                                                             Haberhausen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Roberts
                                                                                                                                                                                                                                                                                                                                                           (first entry)
                                                                                                                                                                          98DE-1014828.
                                                                                                                                                                                                98DE-1014828
                                                                    ٥ŗ
                                                                                                                                                                                                                                                                                                  fungal; primer; ss
                                                                    fungal nucleic
                                            28pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     complementary to nt and detection o
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100.0%;
                                                                                                                            <u>ڻ</u>
                                                                                                                                                                                                                                                                                                                                                                                                         12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Hamlin HA,
Walther DM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    7 G;
                                              German
                                                                                                                            Batz H,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 12;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2 U; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             mismatches
                                                                               for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     o HCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Kilkuskie RE;
Wolfe JL;
                                                                             detecting viral, bacterial
                                                                                                                             0erum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HCV 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DВ
                                                                                                                             H;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     untranslated region infection, esp. hepa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     esp. Nepatitis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
             nucleic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
```

```
δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        888888%&
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAX24037/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local (
                                                                                                       This invention describes a method for the detection of nucleic acid which comprises amplification and reaction of the amplicon with a probe. The method is used to detect nucleic acid e.g. for medical or forensic diagnosis, in food and environmental analysis, in plant protection and veterinary medicine, e.g. for detecting human immune deficiency virus, hepatitis B or C viruses, or Chlamydia, in blood screening. The method provides target-dependent, exponential amplification for highly specific
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 yeast or fungal nucleic acids in human, animal, bacterial, plant, or fungal samples, e.g. feces, smears, cell suspensions, cultures tissue, cell or liquid biopsy samples. This sequence represents a probe used in the method of the invention.
detected in a standardized reaction format using partly the same primers and probes. Only small amplicons are produced (requiring short amplification cycles), there is no competition/displacement between the short counter-strand of the amplicon and the detection probe, and
                                                          and sensitive, reproducible and quantitative detection of one or more nucleic acids (single or double stranded). The design of primers and probes is sufficiently flexible to allow many nucleic acids to be
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Amplification; medical; forensic; diagnosis; food analysis; blood; environmental analysis; plant protection; veterinary medicine; human immune deficiency virus; hepatitis B; hepatitis C; Chlamydia; screening; PCR primer; detection; probe; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (c) detecting hybridization between the amplification product
probe. The assay is useful for detection of viral, bacterial,
                                                                                                                                                                                                                                 Example 1; Page 18; 22pp;
                                                                                                                                                                                                                                                                 protection
                                                                                                                                                                                                                                                                                            Detecting nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                       04-NOV-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                   04-NOV-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                 06-MAY-1999.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            modified_base
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ruthenium-labelled DNA probe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              28-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAX24037;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAX24037 standard; DNA; 12
                                                                                                                                                                                                                                                                                                                            WPI; 1999-278780/24
                                                                                                                                                                                                                                                                                                                                                          (HOFF )
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DE19748690-A1
                                                                                                                                                                                                                                                                                 .g. for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  12 GGGGTCCTGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 GGGGUCCUGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             10;
                                                                                                                                                                                                                                                                                                                                                          ROCHE DIAGNOSTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                                                                               diagnosis,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                                                                                                                                                       97DE-1048690
                                                                                                                                                                                                                                                                                                                                                                                                                     97DE-1048690
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /*tag= a
/note= "5'-end labelled with ruthenium""
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Α.
                                                                                                                                                                                                                                                                               food a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          100.0%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      c;
                                                                                                                                                                                                                                                                              y generating short amplicons and probing and environmental analysis and plant
                                                                                                                                                                                                                                   German
                                                                                                                                                                                                                                                                                                                                                          GMBH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             pred. No. 1e+0
pred. No. 1e+0
pred. No. 1e+0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      G; 1 T; 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1e+03;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               and the cellular,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 yeast
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
```

SSSSSSSXX

Qy

В

밁

14 GGGGTCCTGGAG

```
RESULT 4
AAQ70177/c
ID AAQ70177 standard; RNA; 14 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local S
Matches 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   specificity is high because the relative proportion of the internal detection region is increased with respect to the total amplicon length, allowing better differentiation between (viral) subtypes. Also short amplicons are less likely to undergo non-specific hybridization, so background is low, and short RNA sequences are more stable, with reduced tendency to form secondary structures. AAX23968-69 and AAX24035-37 are
                                                                                                                                                                                    Oligonucleotides which are complementary to part of the hepatitis C virus genomic or messenger RNA are claimed. AAQ70177 is a preferred target sequence which is present in the 5'-UTR of the HCV genome.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Hepatitis C virus; HCV; non-A, non-B he antisense oligonucleotide; translation
                                                                                                                                                     Sequence 14 BP; 2 A; 8 C; 3 G; 1 U; 0 other;
                                                                                                                                                                                                                                                                Claim 16; Page 71; 91pp; English.
                                                                                                                                                                                                                                                                                                                       Anti:sense oligo:nucleotide(s) complementary to hepatitis {\tt C} viral genome - useful for inhibiting HCV replication, to treat related
                                                                                                                                                                                                                                                                                                                                                                             WPI; 1994-101217/12.
                                                                                                                                                                                                                                                                                                                                                                                                                                   Anderson KP,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                10-SEP-1992;
14-APR-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            17-MAR-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   W09405813-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Hepatitis C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5'-untranslated region; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Hepatitis C virus 5'-UTR antisense oligonucleotide target (A)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     04-OCT-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAQ70177;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 12
                                                                                                                                                                                                                                                                                                     diseases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (KAGA )
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       10-SEP-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         12
                                                                           Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               dency to
primers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GGGGUCCUGGAG 12
                     GGGGUCCUGGAG 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGGGTCCTGGAG 1
l Similarity 83...
10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                  ~
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CHEMO SERO THERAPEUTIC ISIS PHARM INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MOCHIDA PHARM CO LTD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BP; 2 A; 7 C; 2 G; 1 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 and probes used in the method of the invention
                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                  Nakatake H,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                     Eto T,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  92US-0945289.
93JP-0087195.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       93WO-JP01293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100.0%;
                                                                           100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                  Furukawa S,
                                                                                                                                                                                                                                                                                                                                                                                                                rukawa S, Hamada F,
Nishihara T, Nozak
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score
Pred. N
                                                        Score 12; DB 1:
Pred. No. 1e+03;
2; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              non-B hepatitis virus; NANBHV;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RES INST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1e+03;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            inhibition; therapy;
                                                                                                                                                                                                                                                                                                                                                                                                                    Nozaki
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DВ
                                                                                           15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        20;
                                                                                                                                                                                                                                                                                                                                                                                                                  Hanecak
C;
                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0;
                                                                                             Length 14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                     RC
                                                        0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
                                                          0
```

Ş

CA2104649-A

```
밁
                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAQ65140
                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                  Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAQ65140 standard;
                                                                                                                                                                                                                                                                                             This oligonucleotide is an example of a preferred antisense compound i.e. it has a base sequence of 15-30 bases which is included within the 49 bases from G at position 127 to C at position 175 of AAQ64913 and which contains at least 7 bases from C at position 147 to C at position 153. The antisense oligonucleotide is useful for inhibiting translation of HCV genes.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CA2104649-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    25-AUG-1992;
03-MAR-1993;
                                                                                                                                                                                                                                                                                                                                                                                         Anti:sense oligo:nucleotide(s) complementary to the hepatitis virus genome - are useful as antiviral agents
                                                                                                                                                                                                                                                                                                                                                                                                                                           Honda Y, Seki M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    21-DEC-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAQ65140;
                  Synthetic
                                                                                                                                                                                                                                                                           Sequence 15
                                                                                                                                                                                                                                                                                                                                                                    Claim 5; Page 163; 262pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 1994-151836/19.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  23-AUG-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      26-FEB-1994.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Hepatitis C Virus; Non-A, non-B hepatitis virus;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Antisense oligonucleotide
                                      therapy;
                                                Hepatitis C Virus; Non-A, non-B hepatitis virus; HCV; antisense;
                                                                   Antisense oligonucleotide complementary to Hepatitis C Virus genome
                                                                                        21-DEC-1994
                                                                                                                                AAQ65141 standard; DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                               (SEKI/) SEKI M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 therapy; inhibition;
                                                                                                                                                                                  4
                                                                                                                                                                                                     1 GGGGUCCUGGAG
                                                                                                                                                    6
                                                                                                                                                                               ggggtcctggag 15
                                                                                                                                                                                             10;
                                                                                                                                                                                                                                    Similarity
                                     inhibition;
                                                                                                                                                                                                                                                                            B₽;
                                                                                                                                                                                                                          Conservative
                                                                                       (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    92JP-0248796
93JP-0042736
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  93CA-2104649
                                                                                                                                                                                                                                                                            1 A;
                                                                                                                                                                                                     12
                                                                                                                                                                                                                                                                                                                                                                                                                                            Yamada
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DNA;
                                                                                                                                                                                                                                                                            2 C;
                                    viral protein precursor;
                                                                                                                                                                                                                                    100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  viral protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              15
                                                                                                                                 16
                                                                                                                                                                                                                                              .08;
                                                                                                                                                                                                                                                                                                                                                                                                                                           [N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                complementary to
                                                                                                                                                                                                                                                                            10 G; 2 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ВP
                                                                                                                                                                                                                          2;
                                                                                                                                                                                                                                    Pred. No.
                                                                                                                                                                                                                                              Score
                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                           e 12; L.
Mo. 1e+03;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  precursor;
                                                                                                                                                                                                                                              DB 15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Hepatitis C Virus genome.
                                                                                                                                                                                                                          0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HCV;
                                                                                                                                                                                                                                              Length
                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             antisense;
                                                                                                                                                                                                                                               15
                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                           0,
```

*j*:

0;

```
SQ CCCCCCXXX
Db
                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                AAQ65125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         This oligonucleotide is an example of a preferred antisense compount i.e. it has a base sequence of 15-30 bases which is included within the 49 bases from 6 at position 127 to C at position 17 of AAQ64913 and which contains at least 7 bases from C at position 14 to C at position 153. The antisense oligonucleotide is useful for the contains at least 1 bases from C at position 14 to C at position 153. The antisense oligonucleotide is useful for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  25-AUG-1992;
03-MAR-1993;
         Claim 5;
                                                                                                                              25-AUG-1992;
03-MAR-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Anti:sense oligo:nucleotide(s) complementary to the hepatitis virus genome - are useful as antiviral agents
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Honda Y,
                            Anti:sense oligo:nucleotide(s) complementary to the hepatitis virus genome - are useful as antiviral agents
                                                                                                                                                                23-AUG-1993;
                                                                                                                                                                                     26-FEB-1994
                                                                                                                                                                                                           CA2104649-A
                                                                                                                                                                                                                                                    therapy; inhibition;
                                                                                                                                                                                                                                                                  Hepatitis C
                                                                                                                                                                                                                                                                                      Antisense oligonucleotide complementary to Hepatitis C Virus genome
                                                                                                                                                                                                                                                                                                           21-DEC-1994
                                                                                                                                                                                                                                                                                                                                                       AAQ65125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 inhibiting translation of HCV genes.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (SEKI/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   23-AUG-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        26-FEB-1994
                                                                                                        (SEKI/) SEKI M.
                                                                                                                                                                                                                                                                                                                                                                                                            U
                                                                                                                                                                                                                                                                                                                                                                                                                                 1 GGGGUCCUGGAG 12
                                                              1994-151836/19
                                                                                                                                                                                                                                                                                                                                                                                                           ||||:||:|||||
|ggggtcctggag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1994-151836/19.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5; Page 163; 262pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                      l Similarity
10; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            16
         Page 156; 262pp; English
                                                                                                                                                                                                                                                                                                                                                       standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Seki M,
                                                                                   Seki M,
                                                                                                                                                                                                                                                                 Virus; Non-A, non-B hepatitis virus; HCV; antisense,
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BP; 2 A; 2 C; 10 G;
                                                                                                                                                                                                                                                                                                           (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   92JP-0248796.
93JP-0042736.
                                                                                                                              92JP-0248796.
93JP-0042736.
                                                                                                                                                               93CA-2104649
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   93CA-2104649
                                                                                                                                                                                                                                                                                                                                                                                                             16
                                                                                                                                                                                                                                                                                                                                                       DNA;
                                                                                     Yamada
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Yamada
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  100.0%
                                                                                                                                                                                                                                                    viral protein precursor; ss
                                                                                                                                                                                                                                                                                                                                                       16 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .0%;
                                                                                     Ħ
                                                                                                                                                                                                                                                                                                                                                                                                                                                       2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1e+03;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                       0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        compound
                                          a
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
```

```
RESULT
AAT90622
IDAT90622
IDAT90622
XX AAT9
XX AAT9
XX Reco
KW Reco
KW IT Reco
KW Tree
XX Hep
XX IT
FT mis
FT mis
FT mis
FT mis
FT MO9
PN WO9

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               888888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Best
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       This oligonucleotide is an example of a preferred antisense compour i.e. it has a base sequence of 15-30 bases which is included within the 49 bases from G at position 127 to C at position 175 of AAQ64913 and which contains at least 7 bases from C at position 147 to C at position 153. The antisense oligonucleotide is useful for inhibiting translation of HCV genes.
AAT90621-650 represent recognition sequences found in the positive (-) strand of the Hepatitis C virus (HCV) RNA. The sequences are recognised by novel ribozymes which inhibit replication, infectivity or gene expression of HCV. The present sequence is located within the 5' UTR. Hairpin ribozymes of the present invention were designed based on sequences adjacent to the GUC sequence recognition feature. The
                                                                                                                                                                                                                                          Ribozyme(s) directed against hepatitis C virus treatment of viral infection, and detection of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              27-FEB-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Hepatitis C virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   treatment;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Hepatitis C virus recognition sequence 32 for ribozyme cleavage.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              07-APR-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAT90622;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAT90622 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 16
                                                                                                                                                                       Example
                                                                                                                                                                                                                                                                                                                WPI; 1997-470461/43.
                                                                                                                                                                                                                                                                                                                                                                                                                    (IMMU-) IMMUSOL INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 29-FEB-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       nucleocapsid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WO9732018-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 GGGGUCCUGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ||||:||:|||||
|ggggtcctggag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          l Similarity
10; Conser
                                                                                                                                                                                                                                                                                                                                                                    JR,
                                                                                                                                                                       Page 17;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HCV infection; HCV contamination; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       sequence; HCV; ribozyme; 5' untra
d coding region; hairpin ribozyme;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BP; 1 A; 2 C; 11 G; 2 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                               Tritz R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                              96US-0608862
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              97WO-US03304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9..16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ′*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RNA;
                                                                                                                                                                  98pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   100.0%
                                                                                                                                                                                                                                                                                                                                                                    Welch
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "complementary to the CNR2 ribozyme
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "cleavage site corr of the (-) strand,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "complementary to the CNR2 ribozyme"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                    English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ΒP
                                                                                                                                                                                                                                                                                                                                                                  PJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pred.
2; Mi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                                    Yei
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         12;
                                                                                                                                                                                                                                                                                                                                                                  ß
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5' untranslated region;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               corresponding rand, counting
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1e+03;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 15;
                                                                                                                                                                                                                                                                                                                                                                    ĭ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;

    for prevention and
HCV contamination of

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         cleavage;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               to position 120 from 3' end"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 compound
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
```

```
RESULT
AAA13439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             33333xx
Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                           The present invention describes ribozymes (I) capable of inhibiting CC replication, infectivity or gene expression of a hepatitis C virus C (HCV), directed to target sequences AAA13434 to AAA13444, AAA13454 and CC AAA13465. (I) have virucide, hepatotropic and antiinflammatory CC activities. (I), or vectors comprising nucleotide sequences encoding (I), CI are useful for interfering with the replication or gene expression of HCV CI na human cells. (I) are useful for diagnosis, prevention and treatment CC of HCV infection or disease in a mammals especially humans. Nucleotide Sequences encoding (I) are useful for preventing hepatitis C viral CC infection in a cell. AAA13401 to AAA13405 represent examples of the Driefest requirements for hairpin ribozyme; AAA13406 and AAA13407 represent PCR primers used in the amplification of the HCV capsid Sequence; AAA13408 to AAA13407 represent HCV hairpin ribozyme recognition Sites; and AAA13408 to AAA13473 represent Oligonucleotides used in the CC construction of HCV hairpin ribozymes, all these sequences are used in the exemplification of the present invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ribozymes are directed against conserved regions of the genome and so should be active against many strains of HCV. The ribozymes, when optionally expressed from a vector, cleave the RNA of HCV and so are useful for treatment and prevention of HCV infection. They can also be used to detect HCV contamination of blood or for clinical diagnosis.
                                                                                                                                                                                                                                                                                                                                                                  Ribozyme capable of inhibiting replication, expression of hepatitis C virus, useful for hepatitis C virus infection -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAA13439 standard; RNA; 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 16 BP; 1 A; 3 C; 10 G; 2 U; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Hepatitis C virus; HCV; hairpin ribozyme; cleavage; recognition site; infection; virucide; hepatotropic; antiinflammatory; replication inhibitor; gene expression inhibitor; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             17-JUL-2000
                                                                                                                                                                                                                                                                                                                                Claim 1; Column 13; 57pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Tritz R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (IMMU-) IMMUSOL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     28-MAR-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Hepatitis C virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  20-OCT-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     w
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGGGUCCUGGAG 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gggguccuggag 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Yei S,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         virus hairpin ribozyme recognition sequence SEQ ID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            97US-0608862.
97WO-US03304.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  97US-0954210.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Barber JR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 12; DB 18; Pred. No. 1e+03;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Welch PJ;
                                                                                                                                                                                                                                                                                                                                                                                    treating or
                                                                                                                                                                                                                                                                                                                                                                                                    infectivity or gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 16;
                                                                                                                                                                                                                                                                                                                                                                                      preventing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NO:39
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
```

Sequence

16 BP;

Α;

w Ç

10

<u>რ</u>

N Ç,

0 other

21-DEC-1994

(first entry)

```
RESULT 1
AAQ65142
                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
X S X E X
                                                                                                 밁
                                                                                                                  Š
                                                        AAQ65126
                                                                    RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local S
Matches 12
                                                                                                                                        Matches
                                                                                                                                                  Query Match
Best Local :
                                                                                                                                                                                                                              This oligonucleotide is an example of a preferred antisense compountie. it has a base sequence of 15-30 bases which is included within the 49 bases from G at position 127 to C at position 175 of AAQ64913 and which contains at least 7 bases from C at position 147
                                                                                                                                                                                                                                                                                                     Anti:sense oligo:nucleotide(s) complementary to the hepatitis virus genome - are useful as antiviral agents
                                                                                                                                                                                                                                                                                                                                   WPI; 1994-151836/19
                                                                                                                                                                                                                                                                                                                                                                                              25-AUG-1992;
03-MAR-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                           23-AUG-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CA2104649-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Hepatitis C Virus; Non-A, non-B hepatitis virus; HCV; antisense; therapy; inhibition; viral protein precursor; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           21-DEC-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAQ65142 standard; DNA; 17 BP
                            AAQ65126;
                                                AAQ65126 standard; DNA;
                                                                                                                                                                                          Sequence 17
                                                                                                                                                                                                                                                                                 Claim 5; Page 164; 262pp; English.
                                                                                                                                                                                                                                                                                                                                                      Honda Y,
                                                                                                                                                                                                                                                                                                                                                                                                                                               26-FEB-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Antisense
                                                                                                                                                                                                                                                                                                                                                                          (SEKI/) SEKI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    w
                                                                                                6 ggggtcctggag
                                                                                                                    1 GGGGUCCUGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 GGGGUCCUGGAG
                                                                                                                                                                                                            at position 153. The biting translation of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gggguccuggag
                                                                                                                                        l Similarity
10; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        oligonucleotide
                                                                                                                                                                                                                                                                                                                                                      Seki M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                        Conservative
                                                                                                                                                                                          BP; 2 A; 2 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (first entry)
                                                                                                                                                                                                                                                                                                                                                                                               92JP-0248796.
93JP-0042736.
                                                                                                                                                                                                                                                                                                                                                                                                                            93CA-2104649.
                                                                                                                    12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     12
                                                                                                 17
                                                                                                                                                                                                                                                                                                                                                        Yamada
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   100.0%;
                                                                                                                                                 83.3%;
                                                                                                                                                           00.0%;
                                                                                                                                                                                                           The antisense oligonucleotide is of HCV genes.
                                                17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        complementary to Hepatitis C Virus genome
                                                                                                                                                                                          11 G; 2 T; 0 other;
                                                ВÞ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0
                                                                                                                                                  Score 12; DB 1
Pred. No. 1e+03;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 12;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1e+03;
                                                                                                                                                           DB 15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                           Length 17;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0
                                                                                                                                         0
                                                                                                                                                                                                                                                              compound
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                         0
```

```
AAQ65111
ID AAQ6
                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                         RESULT
                                                                                                                                                                                                                                                                                                                           Query Match
Best Local S
Matches 10
                                                                                                                                                                                                                                                                                                                                                                                             This oligonucleotide is an example of a preferred antisense componia.e. it has a base sequence of 15-30 bases which is included within the 49 bases from G at position 127 to C at position 175 of AAQ64913 and which contains at least 7 bases from C at position 16 to C at position 153. The antisense oligonucleotide is useful for inhibiting translation of HCV genes.
                                                                                                         CA2104649-A
                                                                                                                                                                                                                                     AAQ65111 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim
Honda Y,
                                     25-AUG-1992;
03-MAR-1993;
                                                                                                                                                                                                                                                                                                                                                                           Sequence 17 BP; 2 A; 2 C; 11 G; 2 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            25-AUG-1992;
03-MAR-1993;
                                                                  23-AUG-1993;
                                                                                                                           Synthetic
                                                                                                                                               therapy; inhibition;
                                                                                                                                                                          Antisense oligonucleotide complementary
                                                                                                                                                                                               21-DEC-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Anti:sense oligo:nucleotide(s) complementary to the hepatitis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         23-AUG-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            26-FEB-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    therapy; inhibition; viral protein precursor; ss
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Hepatitis C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Antisense
                 (SEKI/) SEKI M.
                                                                                                                                                         Hepatitis C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (SEKI/) SEKI M.
                                                                                                                                                                                                                                                         12
                                                                                                                                                                                                                                                                                                                                    Local Similarity
                                                                                                                                                                                                                                                                                      Ģ
                                                                                                                                                                                                                                                                                                       1 GGGGUCCUGGAG 12
                                                                                                                                                                                                                                                                                    ||||:||:||||
|ggggtcctggag 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1994-151836/19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Page 157; 262pp; English.
Seki
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Seki M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  oligonucleotide
                                                                                                                                                         Virus;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Virus; Non-A, non-B hepatitis virus; HCV;
                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                              (first entry)
ĭ
                                      92JP-0248796.
93JP-0042736.
                                                                  93CA-2104649
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     are useful as antiviral agents
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            92JP-0248796.
93JP-0042736.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          93CA-2104649
                                                                                                                                                         Non-A,
                                                                                                                                                                                                                                     DNA; 17
Yamada
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Yamada
                                                                                                                                                                                                                                                                                                                                    100.0%;
                                                                                                                                               viral
                                                                                                                                                        non-B hepatitis virus;
Ħ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 complementary to Hepatitis C
                                                                                                                                              protein
                                                                                                                                                                                                                                     ВP
                                                                                                                                                                                                                                                                                                                           2;
                                                                                                                                                                                                                                                                                                                                   Score 12; DB 19
Pred. No. 1e+03;
                                                                                                                                                                                                                                                                                                                            Mismatches
                                                                                                                                               precursor;
                                                                                                                                                                            ç
                                                                                                                                                                                                                                                                                                                                              DB 15;
                                                                                                                                                                          Hepatitis C Virus genome
                                                                                                                                                                                                                                                                                                                            0
                                                                                                                                                        HCV;
                                                                                                                                                                                                                                                                                                                                              Length 17;
                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               antisense;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Virus genome
                                                                                                                                                                                                                                                                                                                           0;
                                                                                                                                                                                                                                                                                                                                                                                                                                              compound
                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                           0;
```

```
5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 13
AAQ65143
ID AAQ651
  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           γ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SXCCCCCCXPXPTXXX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     This oligonucleotide is an example of a preferred antisense compound i.e. it has a base sequence of 15-30 bases which is included within the 49 bases from G at position 127 to C at position 175 of AAQ64913 and which contains at least 7 bases from C at position 147 to C at position 153. The antisense oligonucleotide is useful for inhibiting translation of HCV genes.
                    This oligonucleotide is an example of a preferred antisense compound i.e. it has a base sequence of 15-30 bases which is included within the 49 bases from G at position 127 to C at position 175 of AAQ64913 and which contains at least 7 bases from C at position 147 to C at position 153. The antisense oligonucleotide is useful for inhibiting translation of HCV genes.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI;
                                                                                                                                     Anti:sense oligo:nucleotide(s) complementary to the hepatitis C virus genome - are useful as antiviral agents
                                                                                                                                                                                                                                                    25-AUG-1992;
03-MAR-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAQ65143;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAQ65143 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 5; Page 150; 262pp; English
 Sequence 18
                                                                                                                Claim
                                                                                                                                                                            WPI; 1994-151836/19.
                                                                                                                                                                                                                                                                                        23-AUG-1993;
                                                                                                                                                                                                                                                                                                                 26-FEB-1994
                                                                                                                                                                                                                                                                                                                                          CA2104649-A
                                                                                                                                                                                                                                                                                                                                                                 Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                      Hepatitis C
                                                                                                                                                                                                                                                                                                                                                                                                                            Antisense oligonucleotide complementary to
                                                                                                                                                                                                                                                                                                                                                                                                                                                       21-DEC-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Anti:sense oligo:nucleotide(s) complementary to the hepatitis C
                                                                                                                                                                                                   Honda Y, Seki M,
                                                                                                                                                                                                                           (SEKI/) SEKI M.
                                                                                                                                                                                                                                                                                                                                                                                         therapy; inhibition; viral protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4 ggggtcctggag 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GGGGUCCUGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1994-151836/19.
                                                                                                            5; Page 164; 262pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        genome -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
  BP;
                                                                                                                                                                                                                                                                                                                                                                                                    Virus; Non-A, non-B hepatitis virus;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BP; 1 A; 3 C; 11 G; 2 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                     (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      are useful as antiviral agents
                                                                                                                                                                                                                                                  92JP-0248796
93JP-0042736
                                                                                                                                                                                                                                                                                        93CA-2104649
2 A; 2 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DNA;
                                                                                                                                                                                                   Yamada
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        18
12 G;
                                                                                                                                                                                                   Œ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ВÞ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 12
Pred. No.
2 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                                                                                                                                                                                         precursor; ss
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1e+03;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB
                                                                                                                                                                                                                                                                                                                                                                                                                             Hepatitis C Virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0,
                                                                                                                                                                                                                                                                                                                                                                                                    HCV;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     compound
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    <u>.</u>.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
```

0;

Query Match

100.0%;

Score

12;

DB

15;

Length

```
RESULT 1
                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
В
                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAQ65127
                                                                                                                                                                                                 Query Match
Best Local S
Matches 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best
                                                                                                                                                                                                                                                                              This oligonucleotide is an example of a preferred antisense compound i.e. it has a base sequence of 15-30 bases which is included within the 49 bases from G at position 127 to C at position 175 of AAQ64913 and which contains at least 7 bases from C at position 147 to C at position 153. The antisense oligonucleotide is useful for inhibiting translation of HCV genes.
Hepatitis C Virus; Non-A, non-B hepatitis virus; HCV; antisense;
                                                                                           AAQ65112 standard; DNA; 18 BP.
                                                                                                                                                                                                                                                          Sequence 18 BP; 2 A; 2 C; 12 G; 2 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                  Claim 5;
                                                                                                                                                                                                                                                                                                                                                                                       Anti:sense oligo:nucleotide(s) complementary to the hepatitis C virus genome - are useful as antiviral agents
                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 1994-151836/19
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Honda Y,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                25-AUG-1992;
03-MAR-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                23-AUG-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         26-FEB-1994.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CA2104649-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Hepatitis C Virus; Non-A, non-B hepatitis virus; HCV; antisense; therapy; inhibition; viral protein precursor; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Antisense oligonucleotide complementary to Hepatitis C Virus genome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      21-DEC-1994 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAQ65127 standard; DNA; 18 BP.
                     Antisense oligonucleotide complementary to Hepatitis C Virus genome
                                              21-DEC-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (SEKI/) SEKI M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Local Similarity 83.3%; nes 10; Conservative
                                                                                                                                                                                                            Local Similarity
                                                                                                                  15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 GGGGUCCUGGAG 12
||||:||:||:|
7 ggggtcctggag 18
                                                                                                                                                    6
                                                                                                                                                   ggggtcctggag 17
                                                                                                                                                                          GGGGUCCUGGAG 12
                                                                                                                                                                                                                                                                                                                                                                 Page 157; 262pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Seki M,
                                                                                                                                                                                                  Conservative
                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              92JP-0248796.
93JP-0042736.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  93CA-2104649
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Yamada
                                                                                                                                                                                                            100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Œ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pred. No. 1e+03;
2; Mismatches
                                                                                                                                                                                                 Score 12; DB 1
Pred. No. 1e+03;
2; Mismatches
                                                                                                                                                                                                                        DB 15;
                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0;
                                                                                                                                                                                                                        Length 18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                  0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           <u>o</u> .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                  0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0
```

0;

```
В
                                                                                   Qy
                                                                                                                                                                           Search completed: August
Job time: 3966 sec
                                                                                                                        Query Match
Best Local
                                                                                                             Matches
                                                                                                                                                                                                          This oligonucleotide is an example of a preferred antisense compound i.e. it has a base sequence of 15-30 bases which is included within the 49 bases from G at position 127 to C at position 175 of AAQ64913 and which contains at least 7 bases from C at position 147 to C at position 153. The antisense oligonucleotide is useful for the C at position 153. The antisense oligonucleotide is useful for
                                                                                                                                                                         Sequence 18 BP; 2 A; 3 C; 11 G; 2 T; 0 other;
                                                                                                                                                                                                                                                                                      Claim 5; Page 151; 262pp; English.
                                                                                                                                                                                                                                                                                                              Anti:sense oligo:nucleotide(s) complementary to the hepatitis virus genome - are useful as antiviral agents
                                                                                                                                                                                                                                                                                                                                                    WPI; 1994-151836/19
                                                                                                                                                                                                                                                                                                                                                                            Honda Y,
                                                                                                                                                                                                                                                                                                                                                                                                   (SEKI/) SEKI M.
                                                                                                                                                                                                                                                                                                                                                                                                                            25-AUG-1992;
03-MAR-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 23-AUG-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          26-FEB-1994.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CA2104649-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                therapy; inhibition; viral protein precursor;
                                                                                                                                                                                                 inhibiting translation of HCV genes.
                                                                       1 GGGGUCCUGGAG
                                                           S
                                                          ggggtcctggag
                                                                                                           1 Similarity
10; Conserv
                                                                                                                                                                                                                                                                                                                                                                             Seki M,
                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                            92JP-0248796.
93JP-0042736.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   93CA-2104649
                                                                                   12
                                                                                                                                                                                                                                                                                                                                                                             Yamada
                                                                                                                       100.0%;
           8,
          2001, 16:06:02
                                                                                                             2
                                                                                                                        Score 12; DB 1
Pred. No. 1e+03;
                                                                                                             Mismatches
                                                                                                                                     DB 15;
                                                                                                             0;
                                                                                                                                    Length 18;
                                                                                                           Indels
                                                                                                             0;
                                                                                                             Gaps
```

```
Title:
Perfect score:
Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    OM nucleic - nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Searched:
                                                                                                                 GenEmbl:*
1: gb_bal:*
2: gb_ba2:*
3: gb_ba3:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      August 8, 2001, 16:01:27; Search time 1583.8 Seconds (without alignments) 195.325 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-08-887-505-122
20
1 UUCGCGACCCAACACUACUC 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1344157 segs, 7733874588 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IDENTITY_NUC Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                              gb_ov:*
gb_pat1:*
                                                                                                                                                                                                                                 em_htgo_hum: *
em_htgo_inv: *
em_htgo_rod: *
em_htg_hum1: *
em_htg_hum2: *
                                                                                                                                                                                                                                                                                                                                                                                                                                  gb_in3:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                        gb_in1:*
                                                                                                                                                                                                                                                                                                                                                                                                                         gb_om:*
                                                                                                                                                                                                                                                                                                                                                                                                                                             gb_in2:*
em_om:*
em_or:*
                                                                                                                                                                                                                                                                                                                                                                        gb_pat2:*
gb_ph:*
                                                                                                                                                                                                em_htg_hum4:*
em_htg_hum5:*
                                                                                                                                                                                                                                                                                           em_fun:*
                                em_hum7:*
                                                                              em_hum3:*
                                                                                                                            em_htg_other:*
                                                                                                                                                   em_htg_hum8:*
em_htg_inv1:*
                                                                                                                                                                          em_htg_hum6:*
em_htg_hum7:*
                                                                                                                                                                                                                       em_htg_hum3:*
                                                                                                                                                                                                                                                                                                        em_ba2:*
                        em_in:*
                                                                                                                    _rod:*
                                                                                                                                           _inv2:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2688314
                                                                                                                                                                                                                                                                                                                                                                   . 12
```

	•		•
98:: 95:: 96:: 97:: 98:: 98::	70.000 711.000 712.000 713.000 713.000 713.000 713.000 713.000 713.000	550 550 550 550 560 560 560 560 560 560	444400000000000000000000000000000000000
9b_pr3: 9b_pr3: 9b_pr5: 9b_pr6: 9b_pr6: 9b_pr8: 9b_pr8: 9b_pr9: 9b_pr9: 9b_pr9: 9b_pr10:	htg1 htg1 htg1 htg1 htg1 htg1 htg1 htg1	+ t t t g g g g s t t g g g g g g g g g g	Letts:
**********	######################################	· · · · · · · · · · · · · · · · · · ·	***

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

	ი 8	7	σ	5	4	ω	2	c 1	Result No.	
	20	20	20	20	20	20	20	20	Score	
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	Query Match	
	139	46	46	33	33	33	33	27	Query Match Length DB	
	58	10	10	10	9	9	9		DB	
	AF282631	170986	I44581	182871	AR097188	AR064935	AR004396	AR106359	DB ID	
,	AF282631 Hepatitis	170986 Sequence 10	I44581 Sequence 10	I82871 Sequence 50	AR097188 Sequence	AR064935 Sequence	AR004396 Sequence	AR106359 Sequence	Description	

```
REFERENCE
AUTHORS
TITLE
JOURNAL
FEATURES
                                                                                                                                                                                                                                           RESULT 1
AR106359/c
LOCUS
                                                                                                    BASE COUNT
ORIGIN
                                                                                                                                                                                                  KEYWORDS
SOURCE
                                                                                                                                                                                                                          DEFINITION
ACCESSION
                        밁
                                        Ş
RESULT
                                                                                                                                                                                                                   VERSION
                                                                                                                                                                                                                                                                                                                 Matches
                                                                   Query Match
Best Local Similarity
                                                                                                                                                                                          ORGANISM
                                                                                                                                                                                                                                                                                                                  source
                        24
                                        1 UUCGCGACCCAACACUACUC 20
N
                        TTCGCGACCCAACACTACTC 5
                                                                                                                                                                                                                  AR106359
Sequence 21
AR106359
AR106359.1
                                                                                                                                              Kay,M.A. and Lieber,A. Ribozymes for treating hepatitis Patent: US 6107028-A 21 22-AUG-20
                                                                                                                                                                                                                                                                                                                 Unclassified.

1 (bases 1 to
                                                                                                                                                                                           Unknown
                                                                                                                                                                                                   Unknown
                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                              σ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .
                                                                                                             /organism="unknown"
4 c 12 g
                                                                                                                                       Location/Qualifiers
                                                                                                                                                                                                                    GI:12820889
                                                                                                                                                                                                                                   from patent
                                                                                                                                                                                                                                                                                                                 100.0%;
                                                                                                                                                                                                                                             27
                                                                                                                                                                                                                                                                                                                  ٠.
                                                                  Score 20; DB
Pred. No. 0.44;
                                                                                                                                                                                                                                                                                                                AY003935
AY003935
AY003937
AY003937
AY003939
AY003939
AY003941
AY003942
AY003943
AY003943
AY003943
AY003943
                                                                                                                                                                                                                                                                                                                                                                                                                             AF282634
AF282637
AF282639
AF282640
AF282640
AF282640
AF282641
AF282644
AF282644
AF282644
AF282646
AF28646
                                                                                                                                                                                                                                    US
                                                                                                                                                22-AUG-2000;
                                                                                                                                                                                                                                                                                       ALIGNMENTS
                                                           Mismatches
                                                                                                                                                                                                                                     6107028.
                                                                                                                                                        ဂ
                                                                                                              5
                                                                            9;
                                                           0
                                                                                                                                                                                                                                             PAT
                                                                          Length 27;
                                                           Indels
                                                                                                                                                                                                                                                                                                                        AY003932
AY003933
AY003934
AY003935
AY003936
AY003939
AY003939
AY003941
AY003941
AY003943
AY003943
AY003943
                                                                                                                                                                                                                                                                                                                                                                                                                                                     AY003924
AY003925
AY003928
AY003929
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AF282645
AF282646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AF282643
AF282644
                                                                                                                                                                                                                                             14-FEB-2001
                                                           0
                                                                                                                                                                                                                                                                                                                                        Hepatitis
                                                                                                                                                                                                                                                                                                                                                                                                                             Hepatitis
Hepatitis
Hepatitis
Hepatitis
Hepatitis
Hepatitis
Hepatitis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Hepatitis
Hepatitis
Hepatitis
Hepatitis
Hepatitis
Hepatitis
Hepatitis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Hepatitis
Hepatitis
Hepatitis
Hepatitis
Hepatitis
Hepatitis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Hepatitis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Hepatitis
                                                           0
                                                                                                                                                                                                                                                                                                                                                                                                                   Q
                                                                                                                               밁
                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                     밁
```

.

```
BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE
AUTHORS
TITLE
JOURNAL
FEATURES
                                     LOCUS
DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                               REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VERSION
KEYWORDS
SOURCE
                                                                                                        RESULT
AR097188
                                                                                                                                                                                                                               BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                     SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                       VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                            RESULT
AR064935
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AR004396
LOCUS
DEFINITION
ACCESSION
                    REFERENCE
                                                                                                                                                                                                                                                                    FEATURES
                                                                                                                                                                                                                                                                                                                                                                           ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                   DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local S
Matches 16
 AUTHORS
                                                                                                                                                                                 Query Match
Best Local S
Matches 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORGANISM
                                                                                                                                                                                                                                                                               JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         source
                                                                                                                                                                                                                                                           source
                                                                                                                                             10
                                                                                                                                                                                                                                                                                                                                                                                                                                            10
                                                                                                                                                                                                                                                                                                                                                                                                                                          1 UUCGCGACCCAACACUACUC 20
::||||||||||||||||:||:|
10 TTCGCGACCCAACACTACTC 29
                                                                                                                                           1 (bases 1 to 33)
Cha, T., Beall, E., II
HCV genomic com
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
AR004396
AR004396.
                                                                 AR097188
Sequence 126
AR097188
AR097188.1
                                                                                                                                                                                                                                                                                                                                                                          AR064935
Sequence
AR064935
                                                                                                                                                                                                                                                                            1 (bases 1 to 33)
Urdea, M.S., Horn, T., Chang, C., Warner, B. and Fultz, T.J.
Nucleic acid hybridization assays employing large comb-type
branched polynucleotides
Patent: US 5849481-A 60 15-DEC-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                l (bases 1 to 33)
Sheridan,P., Chang,C., Running,J. and Urdea,M.S.
Nucleic acid probes immobilized on polystyrene s
Patent: US 5747244-A 50 05-MAY-1998;
Location/Qualifiers
                                                                                                                                                                                  16;
                                     Unknown.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Unknown.
Unclassified
                             Unclassified.
                                               Unknown.
                                                                                                                                                                                                                                                                                                                                      Unknown
                                                                                                                                                                                                                                                                                                                                              Unknown
                                                                                                                                                                                                                                                                                                                                                                 AR064935.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Unknown
                                                                                                                                                                                                                                                                                                                             Unclassified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AR004396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity
                                                                                                                                                                                          Similarity
 genomic sequences for diagnostics and therapeutics
                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100.0%;
ilarity 80.0%;
Conservative '
                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       œ
                                                                                                                                                                                                                                         ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ï
                                                                                    126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        50
                                                                                                                                                                                                                                                                                                                                                                                   60
                                                                                                                                                                                                                                       /organism="unknown"
13 c 6 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /organism="unknown"
13 c 6 g
                                                                                                                                                                                                                                                                   Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                   from F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       from
                                                                                                                                                                                         100.0%;
                                                                   GI:12805918
                                                                                                                                                                                                                                                                                                                                                                 GI:5995151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GI:3965275
                                                                                    33
from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 33 bp
                                                                                                                                                                                                                                                                                                                                                                                   patent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       patent
          Irvine, B., Kolberg, J. and Urdea, M.
                                                                                    patent
                                                                                             đđ
                                                                                                                                             29
                                                                                                                                                              20
                                                                                                                                                                                  4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 20
Pred. No.
                                                                                                                                                                                            Pred. No.
                                                                                                                                                                                                   Score
                                                                                                                                                                                                                                                                                                                                                                                  US !
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US DNA
                                                                                     US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                    5849481.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5747244.
                                                                                                                                                                                   20; L.
                                                                                     6071693.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       20; DB 9
                                                                                                                                                                                                                                         σ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      6
                                                                                                                                                                                                    9:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
                                                                                                                                                                                  0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PAT
                                                                                                                                                                                                   Length 33;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     surfaces
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  33;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  04-DEC-1998
                                                                                               14-FEB-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                  0,
                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                  0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
```

```
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                            BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JOURNAL
FEATURES
                                                                                                                             REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT
182871
LOCUS
                                                BASE COUNT
ORIGIN
                                                                                      JOURNAL FEATURES
                                                                                                                                                          SOURCE
ORGANISM
                                                                                                                                                                                                                             RESULT
I44581
                                                                                                                                                                                                                                                                                       Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORIGIN
                                                                                                                                                                                                                    LOCUS
                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DEFINITION
ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BASE COUNT
                                                                                                                                                                                       VERSION
                                                                                                                                                                                                 ACCESSION
                                                                                                                                                                                                           DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                  FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VERSION
                                                                                                                                                                              KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
Matches 16; Conserv
Query Match 100.
Best Local Similarity 80.0
Matches 16; Conservative
                                                                                                                    TITLE
                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                     Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                             JOURNAL
                                                                            source
                                                                                                                                                                                                                                                                                                                                                                                        source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               10
                                                                                                                                                                                                                                                                     Sequence
182871
182871.1
                                                                                                                                                                                                                                                                                                                                                                                                                             1 (bases 1 to 33)
Sheridan, P., Chang, C., Running, J. and
Process for immobilizing nucleic acid
                                                                                                                                                                                                I44581 46 bp
Sequence 10 from patent
I44581
                                                                                                                                                                                                                                                                                                            16;
                                                                                                                                                                                                                                                                                                                                                                                                  Patent: US 5712383-A 50 27-JAN-1998;
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Patent:
                                                                                                Patent: US 5635352-A 10 03-JUN-1997;
                                                                                                                  1 (bases 1 to 46)
Urdea, M.S., Fultz, T., Warner, B.D. and Collins, M.
Solution phase nucleic acid sandwich assays having reduced
                                                                                                                                                           Unknown
                                                                                                                                                                     Unknown.
                                                                                                                                                                                        I44581.1
                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                        surfaces
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Unclassified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Unknown
                                                                                                           background noise
                                                                                                                                                Unclassified.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                             Conservative
                                                          9
                                                                                                                                                                                                                                                                                                                                                                       80
21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SD
                                                          ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      50 from patent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   JS 6071693-A 126 06-JUN-2000;
Location/Qualifiers
1. .33
                                                         /organism-"unknown"
17 c 11 a
                                                                                     Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                    /organism="unknown"
13 c 6 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /organism="unknown"
13 c 6 g
                                                                                                                                                                                        GI:2469294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GI:3211168
                                                                             .46
                                                                                                                                                                                                                                                                                                                    100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100.0%;
100.0%; Score 20; DB 10; 80.0%; Pred. No. 0.45; Live 4; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 33 bp
                                                                                                                                                                                                                                                                                                            4.
                                                                                                                                                                                                                                                                                                                     Score
Pred. N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 20; DB Pred. No. 0.44;
                                                                                                                                                                                                          DNA
US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US 5712383.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                            5635352
                                                                                                                                                                                                                                                                                                                     re 20; DB;
                                                           9
                                                                                                                                                                                                                                                                                                                                                                     6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 9;
                                                           4
                                                                                                                                                                                                                                                                                                                              10;
                                                                                                                                                                                                                                                                                                                                                                                                                               d Urdea, M.S.
d probes on
                                                                                                                                                                                                                                                                                                             0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 33;
                   Length 46;
                                                                                                                                                                                                                                                                                                                              Length 33;
                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                 polystyrene
                                                                                                                                                                                                                     07-OCT-1997
                                                                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
 0;
                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0
 0
```

```
VERSION
KEYWORDS
SOURCE
                                                                                                                                                        JOURNAL
PUBMED
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
AUTHORS
                                                                                                                                                                                                                             REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                     ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT
170986
                                                                                                                                                                                                                                                                                                                                                                                        RESULT 8
AF282631/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                         문
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LOCUS
                                                                                                        FEATURES
                                                                                                                                                                                                                                                                                                                                                                DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DEFINITION
                                                                                                                                                                                                                                                                                                                                                                              LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
Matches 16; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM
                                                                                                                                                                                                                                                                                          ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JOURNAL
                                                                                                                                             JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     source
                                  misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   10 TTCGCGACCCAACACTACTC 29
                                                                                                                                                                                                                                                                                                                                                                                                                                                     AF282631 139 k
Hepatitis C virus i
sequence.
AF282631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
170986
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 (bases 1 to 46)
Urdea,M.S., Fultz,T., Warner,B.D. and Collins,M.
Solution phase nucleic acid sandwich assays having reduced background noise and Kits therefor
Patent: US 5681697-A 10 28-OCT-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Unknown
                                                                                                                                                                                                    1 (bases 1 to 139)
Harris, K.A. and Teo, C.G.
Diversity of Hepatitis C Virus Quasispecies Evaluated
Gradient Gel Electrophoresis
Clin. Diagn. Lab. Immunol. 8 (1), 62-73 (2001)
                                                                                                                             Harris, K.A. and Teo, C.G.
Direct Submission
Submitted (27-JWR-2000) Hepatitis
Gentral Public Health Laboratory,
                                                                                                                                                                                                                                                                                        Hepatitis C virus.
Hepatitis C virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Unknown.
                                                                                                                     SHT,
                                                                                                                                                                                                                                                                                                                              AF282631.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Unclassified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       170986.1
                                                                                                                                                                                                                                                                Hepacivirus.
                                                                                                                                                                                                                                                                            Viruses; ssRNA positive-strand viruses,
                                                                                                                                                                               (bases 1 to 139)
                                                                                                                     무
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
           28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            10 from patent
                                                        /organism="Hepatitis C virus"
/isolate="H069"
/db_xref="taxon:11103"
                                                                                                       Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /organism="unknown"
17 c 11 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GI:3007121
        /note="5' non-coding region"
36 c 43 g 32 t
                                             /clone="I"
                                                                                                                                                                                                                                                                                                                              GI:10764494
                                   .139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          46 bp
                                                                                                                                                                                                                                                                                                                                                                bp RNA V
isolate H069 clone I 5'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 20; DB
Pred. No. 0.45;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US 5681697.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                and
61 C
                                                                                                                                d Retrovirus Laboratory,
Colindale Avenue, London NW9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                                                              no
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PAT
                                                                                                                                                                                                                                                                                                                                                                             VRL.
                                                                                                                                                                                                                                                                                                                                                                RL 01-MAR-2001
non-coding region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length
                                                                                                                                                                                                                                                                              DNA stage;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             03-APR-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0
                                                                                                                                                                                                                                уd
                                                                                                                                                                                                                                                                                Flaviviridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                Denaturing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
```

```
ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 9
AF282632/c
                                         REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                            BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
AUTHORS
PUBMED
REFERENCE
                                                                                                                                                                                  RESULT 10
AF282633/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LOCUS
                                                                                                                                                               DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCESSION
                                                                                                                                                                           COCUS
                                                                                                                                                                                                                                                                       Query Match
Best Local S
Matches 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local S
Matches 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM
                     JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PUBMED
                                                                                                                                                                                                                                                                                                                                                           misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       116
                                                                                                                                                                                                                               116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 (bases 1 to 139)
Harris,K.A. and Teo,C.G.
Diversity of Hepatitis C Virus Quasispecies Evaluated
Gradient Gel Electrophoresis
Clin. Diagn. Lab. Immunol. 8 (1), 62-73 (2001)
11139197
                   l (bases 1 to 139)
Harris, K.A. and Teo, C.G.
Diversity of Hepatitis C Virus Quasispecies Evaluated
Gradient Gel Electrophoresis
Clin. Diagn. Lab. Immunol. 8 (1), 62-73 (2001)
                                                                                                                                         sequence.
AF282633
                                                                                                                                                                                                                                                                                                                                                                                                                                    SHT,
                                                                                                                                                                                                                                                                                                                                                                                                                                               Harris,K.A. and Teo,C.G.
Direct Submission
Submitted (27-JUM-2000) Hepatitis
Central Public Health Laboratory,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   sequence.
AF282632
                                                                                                                                                                                                                                                                        16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Hepatitis C virus.
                                                                                  Hepatitis C virus.
Hepatitis C virus
Viruses; ssRNA positive-strand viruses,
                                                                                                                                                              AF282633 139
Hepatitis C virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AF282632.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Hepatitis C
                                                                        Hepacivirus.
                                                                                                                                AF282633.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Hepacivirus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Viruses; sgRNA positive-strand viruses,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (bases 1 to 139)
(bases 1 to
                                                                                                                                                                                                                                                                                                                                                                                                                                      덪
                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                       28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                               /organism="Hepatitis C virus"
/isolate="H069"
/db_xref="taxon:11103"
                                                                                                                                                                                                                                                                                                                                      /note="5' non-coding region" 36 c 42 g 33 t
                                                                                                                                                                                                                                                                                                                                                                     /clone="II"
                                                                                                                                                                                                                                                                                                                                                                                                                          Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       139
virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GI:10764495
                                                                                                                               GI:10764496
                                                                                                                                                                                                                                                                                  100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          100.0%;
 139)
                                                                                                                                                              ) bp RN
; isolate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       bp RNA
isolate H069 clone
                                                                                                                                                                                                                                                                        4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                pred. No. 0.46;
4; Mismatches
                                                                                                                                                                                                                                                                                  Score 20;
Pred. No.
                                                                                                                                                               RNA V
ce H071 clone I 5'
                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 58;
                                                                                                                                                                                                                                                                                  DB . 46;
                                                                                                                                                                                                                                                                                                                                                                                                                                                and Retrovirus Laboratory,
61 Colindale Avenue, London NW9
                                                                                                                                                                                                                                                                                             58;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Π
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5' L
                                                                                     ņo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ņo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 139;
                                                                                                                                                               RL 01-MAR-2001
non-coding region
                                                                                                                                                                                                                                                                                             Length 139;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DNA
                                                                                     DNA stage; Flaviviridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         non-coding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               stage;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-MAR-2001
                                                                                                                                                                                                                                                                        0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Flaviviridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    þу
                                          bу
                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                            Denaturing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Denaturing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                        0
```

```
JOURNAL
PUBMED
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                       ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                           REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 11
AF282634/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BASE COUNT
ORIGIN
                     ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ş
 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURES
                                                                                                            ORIGIN
                                                                                                                       BASE COUNT
                                                                                                                                                                                                                       FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Snoo
                                             Query Match
Best Local S
Matches 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local S
Matches 16
                                                                                                                                                                                                                                                          TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  source
                                                                                                                                              misc_feature
                                                                                                                                                                                                            source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       116
 116
                      1 UUCGCGACCCAACACUACUC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 UUCGCGACCCAACACUACUC 20
TTCGCGACCCAACACTACTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTCGCGACCCAACACTACTC
                                                                                                                                                                                                                                                                                                      Hepacivition (bases 1 to 139)

1 (bases 1 to 139)

Harris, K.A. and Teo, C.G.

Diversity of Hepatitis C Virus Quasispecies Evaluated Gradient Gel Electrophoresis

Gradient Gel Electrophoresis

11- Niagn. Lab. Immunol. 8 (1), 62-73 (2001)
                                                                                                                                                                                                                                                                                                                                                                                Hepatitis C virus.
Hepatitis C virus
Viruses; sRRNA positive-strand viruses, no DNA stage; Flaviviridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                        sequence.
AF282634
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Harris, K.A. and Teo, C.G.
Direct Submission
Submitted (27-JUN-2000) Hepatitis and Retrovirus Laboratory,
Central Public Health Laboratory, 61 Colindale Avenue, London NW9
                                                16;
                                                                                                                                                                                                                                             Direct Submission
Submitted (27-JUN-2000) Hepatitis and Retrovirus Laboratory,
Central Public Health Laboratory, 61 Colindale Avenue, London
                                                                                                                                                                                                                                                                               2 (bases 1 to 139)
Harris, K.A. and Teo, C.G.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Hepatitis C virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       16; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SHT, UK
                                                                                                                                                                                                                                                                                                                                                                               Hepacivirus.
                                                                                                                                                                                                                                                                                                                                                                                                                                              AF282634.1
                                                          Similarity
                                                                                                                                                                                                                                   덪
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                       27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               27
                                                Conservative
                                                                                                                       ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Location/Qualifiers
1. .139
                                                                                                                                                                                                                      Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /clone-"I"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /organism="Hepatitis C virus"
/isolate="H071"
/db_xref="taxon:11103"
                                                                                                                       /note="5' non-coding region"
38 c 43 g 31 t
                                                                                                                                                         /clone-"II"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note="5' non-coding region" 37 c 43 g 32 t
                                                                                                                                                                     /db_xref="taxon:11103"
                                                                                                                                                                                   /organism="Hepatitis C virus"
/isolate="H071"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      . 139
                                                                                                                                                                                                                                                                                                                                                                                                                                           GI:10764497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              100.0%;
                                                          100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                isolate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           þ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       97
 97
                     20
                                                          Score 20;
Pred: No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RNA
                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                H071 clone II 5' 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        20; L.
No. 0.46;
                                                                       20;
                                                         0.46;
                                                                       58;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              58;
                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 139;
                                                                       Length 139;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                non-coding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                 Indels
                                                0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
                                                                                                                                                                                                                                                                                                                                              γď
                                                Gaps
                                                                                                                                                                                                                                                                                                                                              Denaturing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                               6MN
                                                0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
```

RESULT 12 AF282635/c

```
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PUBMED
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE
AUTHORS
TITLE
                                                                                                                            PUBMED
REFERENCE
                                                                                                                                                                                                                                                                                                                             RESULT 13
AF282637/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VERSION
KEYWORDS
                                                                                                                                                                                                                                   SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                          FEATURES
                                                                                                                                                                                                                                                                                                        DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOURCE
                                                                                                                                                                                                                                                          KEYWORDS
                                                                                                                                                                                                                                                                        VERSION
                                                                                                                                                                                                                                                                                 ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACCESSION
                                                                                                        AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local :
                                                                                                                                                     JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM
                                                                                             JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    misc_feature
                                                                                                                                                                                                                                                                                                                                                                            116
                                                                                                                                                                                                                                                                                                                                                                           Hepacivition (139)
1 (bases 1 to 139)
Harris, K.A. and Teo, C.G.
Diversity of Hepatitis C Virus Quasispecies Evaluated
Gradient Gel Electrophoresis
Gradient Gel Electrophoresis
Gradient Gel Electrophoresis
                                                                     Central
5HT, UK
                                                                                                                                                                                                                                                                                 sequence.
AF282637
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Harris K.A. and Teo,C.G.
Direct Submission
Submitted (27-JUN-2000) Hepatitis
Central Public Health Laboratory,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 (bases 1 to 139)
Harris,K.A. and Teo,C.G.
Diversity of Hepatitis C Virus Quasispecies Evaluated
Gradient Gel Electrophoresis
                                                                               Harris, K.A. and Teo,C.G.
Direct Submission
Submitted (27-JUN-2000) Hepatitis
Central Public Health Laboratory,
                                                                                                                                                                                                                                                                                                                                                                                                                         l Similarity
16; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SHT,
                                                                                                                                                                                                                                                                                                       AF282637 139 bp Ri
Hepatitis C virus isolate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Hepatitis C virus.
Hepatitis C virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AF282635 139
Hepatitis C virus
                                                                                                                                                                                                                                   Hepatitis C virus.
Hepatitis C virus
                                                                                                                                                                                                                                                                       AF282637.1
                                                                                                                                                                                                                                                                                                                     AF282637
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Clin. Diagn. Lab. Immunol. 8 (1), 62-73 (2001)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Viruses; ssRNA positive-strand viruses,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AF282635.1
                                                                                                                                                                                                            Hepacivirus.
                                                                                                                                                                                                                       Viruses; ssRNA positive-strand viruses, no DNA stage; Flaviviridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Hepacivirus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         11139197
                                                                                                                            (bases 1 to 139)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (bases 1 to 139)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              26
/organism="Hepatitis C
/isolate="H075"
/db_xref="taxon:11103"
/clone="III"
                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note="5' non-coding region" 37 c 44 g 32 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /clone-"I"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /organism="Hepatitis C virus"
/isolate="H075"
/db_xref="taxon:11103"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GI:10764498
                                                                                                                                                                                                                                                                       GI:10764500
                                                                                                                                                                                                                                                                                                                                                                                                                                   100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ) bp RN
                                                                                                                                                                                                                                                                                                                                                                              97
                                                                                                                                                                                                                                                                                                                                                                                                  20
                                                                                                                                                                                                                                                                                                                                                                                                                         Pred.
4; Mis
                                                                                                                                                                                                                                                                                                                                                                                                                                               Score
                                                                                                                                                                                                                                                                                                                      RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RNA VRL
                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                                                          H075 clone III
                                                                                                                                                                                                                                                                                                                                                                                                                            20;
vo. 0.46;
                                                                                                                                                                                                                                                                                                                                                                                                                                       No.
                                                                                 and Retrovirus Laboratory
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               and Retrovirus Laboratory, 61 Colindale Avenue, London NW9
                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 58;
                                                                                                                                                                                                                                                                                                                                                                                                                          0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ņ
                                                                                                                                                                                                                                                                                                        non-coding region
                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 139;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DNA stage;
                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                          non-coding region
                                                                                                                                                                                                                                                                                                                     01-MAR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                         0,
                                                                                                                                                                             by Denaturing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Λq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Flaviviridae;
                                                                                  London
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Denaturing
                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                   e R
                                                                                                                                                                                                                                                                                                                                                                                                                          0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                     JOURNAL
PUBMED
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE
AUTHORS
                                   SOURCE
ORGANISM
                                                                     ACCESSION
VERSION
                                                                                                                                                                                                                                                                                 BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 14
AF282638/c
                                                                                                                            RESULT 15
AF282639/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BASE COUNT
ORIGIN
                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                             무
                                                                                                                                                                                                                                                                                                                                                                                        FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DEFINITION
  REFERENCE
                                                           KEYWORDS
                                                                                                        DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   POCUS.
                                                                                                                    Locus
                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                          JOURNAL
                                                                                                                                                                                                                                                                                                                                                                              source
```

```
Query Match
Best Local S
Matches 16
                                                                                                                                                                                                                           Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                        misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 UUCGCGACCCAACACUACUC 20
                                                                                                                                                                                          1 UUCGCGACCCAACACUACUC 20
                                                                                                                                                                                                                  16;
                                                                             sequence.
                                                                                                                                                                                                                                                                                                                                                                                   Direct Submission
Submitted (27-JUN-2000) Hepatitis and Retrovirus Laboratory,
Central Public Health Laboratory, 61 Colindale Avenue, London
5HT, UK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Hepatitis C virus Hepatitis C virus
              Hepatitis C virus.
Hepatitis C virus
Viruses; ssRNA positive-strand
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Diversity of Hepatitis C Vi
Gradient Gel Electrophoresi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AF282638
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Hepatitis C
                                                                                                 AF282639 139
Hepatitis C virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Clin. Diagn. Lab. Immunol.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Viruses; ssRNA positive-strand viruses, no DNA stage; Flaviviridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AF282638.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AF282638
                                                                 AF282639.1
                                                                                                                                                                                                                                                                                                                                                                                                                               2 (bases 1 to 139)
Harris, K.A. and Teo, C.G.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Harris, K.A. and Teo, C.G.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Hepacivirus.
         Hepacivirus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity 80.
(bases 1 to 139)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (bases 1 to 139)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    26
                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                   26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ø
                                                                                                                                                                                                                                                                                   ø
                                                                                                                                                                                                                                                                                   /note=*5'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /organism="Hepatitis C virus"
/isolate="H075"
                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                                                                                                    /clone="IV"
                                                                                                                                                                                                                                                                                                                             db_xref-"taxon:11103"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          virus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  virus isolate
                                                                 GI:10764502
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GI:10764501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          100.0%;
                                                                                                                                                                                                                         100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ģ
                                                                                                  bp RNA
isolate H858
                                                                                                                                                                     97
                                                                                                                                                                                                                                                                                   non-coding region*
44 g 33 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     97
                                                                                                                                                                                                                           Score 20; DB
Pred. No. 0.46;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 20; DB 58;
Pred. No. 0.46;
4; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Virus
                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 H075
                                                                                                                                                                                                                                                                                 Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (1),
                                                                                         VRL
3 clone I 5' no
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 clone IV 5'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Quasispecies Evaluated
                     viruses,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   62-73 (2001)
                                                                                                                                                                                                                                       58;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                 0
                     90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 139;
                                                                                                  RL 01-MAR-2001
non-coding region
                                                                                                                                                                                                                                       Length
                      DNA stage;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 non-coding region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-MAR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                  0
                      Flaviviridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        by Denaturing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                 6MN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                  0
```

```
JOURNAL PUBMED REFERENCE AUTHORS TITLE JOURNAL
Search completed: August 8, 2001, 16:01:28 Job time: 5802 sec
                                                                                                망
                                                                                                                                Ŷ
                                                                                                                                                                                                                                                                        BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AUTHORS
TITLE
                                                                                                                                                                      Query Match 100.0%; Score 20; DB 58; Length 139; Best Local Similarity 80.0%; Pred. No. 0.46; Matches 16; Conservative 4; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                               misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                               source
                                                                                              1 UUCGCGACCCAACACUACUC 20
::|||||||||||||||||||||||
116 TTCGCGACCCAACACTACTC 97
                                                                                                                                                                                                                                                                                                                                                                                                                                                               2 (bases 1 to 139)
Harris, K.A. and Teo, C.G.
Direct Submission
Submitted (27-JUN-2000) Hepatitis and Retrovirus Laboratory,
Central Public Health Laboratory, 61 Colindale Avenue, London NW9
5HT, UK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Harris,K.A. and Teo,C.G.
Diversity of Hepatitis C Virus Quasispecies Evaluated by Denaturing Gradient Gel Electrophoresis
Clin. Diagn. Lab. Immunol. 8 (1), 62-73 (2001)
11139197
                                                                                                                                                                                                                                                                                            26 a
                                                                                                                                                                                                                                                                                      /organism="Hepatitis C virus"
/isolate="H858"
/db_xref="taxon:11103"
/clone="I"
1. 139.
/note="5' non-coding region"
a 37 c 44 g 32 t
                                                                                                                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
                                                                                                                                                                      Indels 0; Gaps
                                                                                                                                                                          0;
```

```
Thu Aug
```

```
specificity is high because the relative proportion of the internal detection region is increased with respect to the total amplicon length, allowing better differentiation between (viral) subtypes. Also short amplicons are less likely to undergo non-specific hybridization, so background is low, and short RNA sequences are more stable, with reduced tendency to form secondary structures. AAX23968-69 and AAX24035-37 are PCR primers and probes used in the method of the invention.
Sequence 12 BP; 2 A; 7 C; 2 G; 1 T; 0 other;
```

888888888888888

```
Matches
        Query Match
Best Local Similarity
  10;
 Conservative
         100.0%;
Score 12; DB 2
Pred. No. 1e+03;
2; Mismatches
                   DB 20;
```

0;

0,

Gaps

0,

Length 12; Indels

```
AAQ70177 standard; RNA; 14 BP
```

밁 2

12 GGGGTCCTGGAG 1 1 GGGGUCCUGGAG

Hepatitis C virus; HCV; non-A, non-B hepatitis virus; NANBHV; antisense oligonucleotide; translation inhibition; therapy; Hepatitis C virus 5'-UTR antisense oligonucleotide target (A). 04-OCT-1994 AAQ70177; (first entry)

WO9405813-A. 5'-untranslated region; ss. Hepatitis C Virus.

(KAGA ) 10-SEP-1992; 14-APR-1993; CHEMO SERO THERAPEUTIC RES INST. ISIS PHARM INC. MOCHIDA PHARM CO LTD 92US-0945289 93JP-0087195

10-SEP-1993;

93WO-JP01293.

17-MAR-1994.

Anderson KP, Hoshiko ~ Nakatake H, Eto T, Furukawa S, Hamada F, H, Nishihara T, Nozaki Hanecak C;

WPI; 1994-101217/12.

Anti:sense oligo:nucleotide(s) complementary to hepatitis C viral genome - useful for inhibiting HCV replication, to treat related diseases

Claim 16; Page 71; 91pp; English.

Matches Similarity 0; 0 Gaps

QΥ Query Match Best Local Oligonucleotides which are complementary to part of the hepatitis C virus genomic or messenger RNA are claimed. AAQ70177 is a preferred target sequence which is present in the 5'-UTR of the HCV genome. Sequence 14 BP; 2 A; 8 C; 3 G; 1 U; 0 other; GGGGUCCUGGAG 12 100.0%; ilarity 83.3%; Conservative ; Score 12; DB 1 Pred. No. 1e+03; 2; Mismatches DB 15; Length 14;

> RESULT AAQ65140 В AAQ65140; AAQ65140 standard; DNA; 15 BP 14 GGGGTCCTGGAG

Antisense oligonucleotide complementary to Hepatitis C Virus genome. 21-DEC-1994 (first entry)

Hepatitis C Virus; Non-A, non-B hepatitis virus; HCV; antisense; therapy; inhibition; viral protein precursor; ss.

Synthetic.

XXXX 26-FEB-1994 CA2104649-A.

23-AUG-1993; 93CA-2104649

03-MAR-1993; 25-AUG-1992; 92JP-0248796. 93JP-0042736.

(SEKI/) SEKI M

Honda Y, Seki M, Yamada Œ

WPI; 1994-151836/19.

Anti:sense oligo:nucleotide(s) complementary to the hepatitis virus genome - are useful as antiviral agents

a

Claim 5; Page 163; 262pp; English

PD XXX PR XXX PD This oligonucleotide is an example of a preferred antisense compound i.e. it has a base sequence of 15-30 bases which is included within the 49 bases from G at position 127 to C at position 175 of AAQ64913 and which contains at least 7 bases from C at position 147 to C at position 153. The antisense oligonucleotide is useful for inhibiting translation of HCV genes.

Sequence 15 BP; 1 A; 2 C; 10 G; 2 T; 0 other;

Query Match Best Local Matches Local Similarity Conservative 100.0%; Score 12; Db 10, Pred. No. Mismatches DB 15; 0; Length 15; 0; Gaps

0;

Вb δÃ 4 ggggtcctggag 15 GGGGUCCUGGAG 12

AAQ65141 RESULT σ

AAQ65141 standard; DNA; 16 BP

AAQ65141;

(first entry)

Antisense oligonucleotide complementary to Hepatitis C Virus genome

Hepatitis C therapy; inhibition; viral protein precursor; ss Virus; Non-A, non-B hepatitis virus; HCV;

Synthetic.

0;

CA2104649-A

•

AF282633 AF2826334 AF282633 AF282633 AF282638 AF282639 AF282641 AF282641 AF282644 AF282644 AF282644 AF282644 AF282645 AF28265 AF2865 AF2865

.

h 27; els 0; Gaps 0;		14-FEB-2001		AY003928 Hepatitis AY003929 Hepatitis AY003930 Hepatitis AY003932 Hepatitis AY003933 Hepatitis AY003934 Hepatitis AY003934 Hepatitis AY003936 Hepatitis AY003936 Hepatitis AY003937 Hepatitis		AF282632 Hepatitis AF282633 Hepatitis AF282634 Hepatitis AF282635 Hepatitis AF282635 Hepatitis
RESULT 4 AR097188 AR097188 AR097188 DEFINITION Sequence 126 from patent US 6071693. ACCESSION AR097188.1 GI:12805918 KEYWORDS SOURCE Unknown. ORGANISM Unclassified. REFERENCE 1 (bases 1 to 33) TITLE HCV genomic sequences for diagnostics and therapeutics	Query Match  Best Local Similarity 80.0%; Score 20; DB 9; Length 33;  Best Local Similarity 80.0%; Pred. No. 0.44;  Matches 16; Conservative 4; Mismatches 0; Indels 0; Gaps 0;  Qy 1 UUCGCGACCCAACACUACUC 20  1:	Unclassified.  1 (bases 1 to 33) Urdea, M.S., Horn, T. Nucleic acid hybrid: branched polynucleo Patent: US 5849481-, Location/Que 1 33 /organism=' 8 a 13 c	RESULT 3 AR064935 AR064935 LOCUS AR064935 DEFINITION Sequence 60 from patent US 5849481. ACCESSION AR064935 VERSION AR064935 KEYWORDS KEYWORDS Unknown. SOURCE Unknown.	Query Match Best Local Similarity 80.0%; Score 20; DB 9; Length 33; Best Local Similarity 80.0%; Pred. No. 0.44; Matches 16; Conservative 4; Mismatches 0; Indels 0; Gaps 0; Qy 1 UUCGCGACCCAACACUACUC 20 ::	Unknown. Unclassified 1 (bases 1 Sheridan, P. Nucleic acid Patent: US 5 Patent: US 5 Patent	AR004396 AR004396 33 bp DNA PAT 04-DEC-1998 DEFINITION Sequence 50 from patent US 5747244. ACCESSION AR004396 VERSION AR004396 1 GI:3965275

```
밁
                          Qy
                                                              Query Match 100.
Best Local Similarity 80.0
Matches 16; Conservative
                                                                                                                                  Unknown.

M Unknown.

Unclassified.

LE 1 (bases 1 to 27)

JRS Kay,M.A. and Lieber,A.

Kay,M.A. and Lieber,A.

Rhozymes for treating hepatitis C

RNAL Patent: US 6107028-A 21 22-AUG-2000;

Location/Qualifiers

1. 27

'organism="unknown"

12 g 5 t
100.0%; Score 20; DB 9; Length 2 80.0%; Pred. No. 0.44; tive 4; Mismatches 0; Indels
```

RESULT 1
AR106359/C
LOCUS
DEFINITION
ACCESSION
VERSION
VERSION
KEYWORDS
SOURCE
ORGANISM

AR106359 27 bp DNA Sequence 21 from patent US 6107028. AR106359 AR106359.1 GI:12820889

PAT

ALIGNMENTS

REFERENCE AUTHORS TITLE JOURNAL FEATURES

BASE COUNT ORIGIN

source

Patent: US 6071693-A 126 06-JUN-2000;

Thu Aug

ဖ

```
JOURNAL FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                     BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                            JOURNAL FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              rocus
                                                                                                                                                                                                                                    RESULT
I44581
                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                               Š
                                                                                                                       REFERENCE
AUTHORS
TITLE
                                                   BASE COUNT
ORIGIN
                                                                                                                                                                         SOURCE
                                                                                                                                                                                                                  DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local S
                                                                                                                                                                                              VERSION
                                                                                                                                                                                                         ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                           FEATURES
                                                                                                                                                                                    KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM
                                                                                                                                                                                                                                                                                                                               Query Match
Best Local S
                                                                                                                                                                                                                                                                                                                    Matches
Query Match
Best Local S
Matches 16
                                                                                                                                                                ORGANISM
                                                                                                    JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    source
                                                                                                                                                                                                                                                                                                                                                                                                    source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 UUCGCGACCCAACACUACUC
::||||||||||||||:||:|
10 TTCGCGACCCAACACTACTC
                                                                                source
                                                                                                                                                                                                                                                                             10
                                                                                                                                                                                                                                                                                                1 UUCGCGACCCAACACUACUC
                                                                                                                                                                                                                                                                             ::||||||||||||||:||:||
TTCGCGACCCCAACACTACTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 50 from patent 182871
                                                                                                                                                                                                                                                                                                                                                                                                                                           Sheridan, P., Chang, C., Running, J. and Urdea, M.S. process for immobilizing nucleic acid probes on
                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 (bases 1 to 33)
Sheridan, P., Chang
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                     16;
                                                                                                                                                                                                                                                                                                                                                                                                                                   surfaces
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Unclassified.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Unknown.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 I82871.1
                                                                                                                                                                                                                                                                                                                                                                                                                         Patent:
                                                                                                                                                                                                         Sequence
I44581
                                                                                                                             1 (bases 1 to 46)
Urdea, M.S., Fultz, T., Warner, B.D. and Collins, M.
Urdea, M.S., Fultz, T., Warner, B.D. and Collins, M.
                                                                                                                                                                                                                                                                                                                                Similarity
                                                                                                      background noise patent: US 5635352-A 10 03-JUN-1997;
                                                                                                                        Solution phase nucleic acid sandwich
                                                                                                                                                      Unclassified
                                                                                                                                                                 Unknown
                                                                                                                                                                            Unknown.
                                                                                                                                                                                              I44581.1
                                                                                                                                                                                                                           144581
             Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    œ
                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                  œ
                                                                                                                                                                                                                                                                                                                                                                                                                         US 5712383-A 50 27-JAN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    organism="unknown"
13 c 6 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GI:3211168
                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
1, .33
                                                                                                                                                                                                                                                                                                                                                                                    organism="unknown"/
13 c 6 g
                                                                                                                                                                                                                  10 from patent
                                                             /organism="unknown"
17 c 11 q
                                                                                            Location/Qualifiers
                                                                                                                                                                                                GI:2469294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  100.0%;
                                                                                                                                                                                                                                                                                                                                100.0%;
                                                                                                                                                                                                                                                                                                                                                                                   13 c
            100.0%;
                                                                                                                                                                                                                              46 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                đđ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    20
                                                                                                                                                                                                                                                                                29
                                                                                                                                                                                                                                                                                                    20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score
Pred. N
    %; Score 20; DB 1; Pred. No. 0.45; 4; Mismatches
                                                                                                                                                                                                                                                                                                                                 Score 20; DB Pred. No. 0.44;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DNA
US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          score 20; DB 9
red. No. 0.44;
Mismatches
                                                                                                                                                                                                                   , US
                                                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5712383
                                                                                                                                                                                                                      5635352.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                     6
                                                                                                                                                                                                                                                                                                                                             DB 10;
                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9;
                          10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 33;
                                                                                                                                                                                                                                 PAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                             Length 33;
                          Length 46;
                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                 polystyrene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     10-JUN-1998
                                                                                                                               reduced
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                                                                             0;
```

Conservative

0;

Indels

0;

Gaps

0

```
LOCUS
DEFINITION
ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT
170986
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                        Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                    DEFINITION
                                                                                                                                                                                                                                                                                                                                                                          AF282631/c
                                                                                                                                                                                                                                                                                                                                                                                       RESULT
                                                                                                                                                                                                                                             REFERENCE
                                                                                                                                                                                                                                                                                         SOURCE
                                                                                                                                                                          REFERENCE
                                                                                                                                                                                                                                                                                                      KEYWORDS
                                                                                                                                                                                                                                                                                                                  VERSION
                                                                                                                                                                                                                                                                                                                             ACCESSION
BASE COUNT
ORIGIN
                                                                                                      FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                      AUTHORS
TITLE
                                                                                                                                                                                     JOURNAL
PUBMED
                                                                                                                                                                                                                                                                              ORGANISM
                                                                                                                                                      TITLE
                                                                                                                                        JOURNAL
                                                                                                                                                               AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        10
                                                                                          source
                                   misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                        1 UUCGCGACCCAACACUACUC 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        UUCGCGACCCAACACUACUC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 10 from patent 170986
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 (bases 1 to 46)
Urdea_M.S., Fultz,T., Warner,B.D. and Collins,M.
Solution phase nucleic acid sandwich assays having reduced
background noise and kits therefor
patent: US 5681697-A 10 28-CCT-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              170986.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Unclassified.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity
16; Conserv
                                                                                                                                                                                    Harris,K.A. and Teo,C.G.
Diversity of Hepatitis C Virus Quasispecies Evaluated
Gradient Gel Electrophoresis
Clin. Diagn. Lab. Immunol. 8 (1), 62-73 (2001)
11139197
                                                                                                                                                                                                                                                                                                                                                   AF282631 139 bp Rh
Hepatitis C virus isolate
                                                                                                                           2 (bases 1 to 139)
Harris,K.A. and Teo,C.G.\
Direct Submission 2000) Hepatitis
Submitted (27-JUN-2000) Hepatitis
Central Public Health Laboratory,
                                                                                                                                                                                                                                                                                Hepatitis C virus.
Hepatitis C virus
                                                                                                                                                                                                                                                                                                                   AF282631.1
                                                                                                                                                                                                                                                                                                                                         sequence.
                                                                                                                                                                                                                                                                  Viruses; ssRNA positive-strand viruses,
                                                                                                                                                                                                                                                        Hepacivirus
                                                                                                                   SHT,
                                                                                                                                                                                                                                               (bases 1 to 139)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
              28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /organism="unknown"
17 c 11 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GI:3007121
                                             /organism="Hepatitis C v
/isolate="H069"
/db_xref="taxon:11103"
/clone="I"
                                                                                            Location/Qualifiers
1. .139
              /note="5' non-coding region"
36 c 43 g 32 t
                                                                                                                                                                                                                                                                                                                    GI:10764494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          score 20; DB pred. No. 0.45; 4; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DNA
US 5681697
                                                                                                                                                                                                                                                                                                                                                                    RNA
                                                                                                                                                                                                                                                                                                                                                        н069
                                                                                                                                                                                                                                                                                                                                                         clone I 5'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DВ
                                                                                                                                  and
61 (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   10;
                                                                                                                                 d Retrovirus Labora
Colindale Avenue,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
                                                                                                                                                                                                                                                                           no DNA stage; Flaviviridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length
                                                                                                                                                                                                                                                                                                                                                             non-coding region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      03-APR-1998
                                                                                                                                                Laboratory,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                bу
                                                                                                                                       London
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                 Denaturing
                                                                                                                                        emn
6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
```